WHAT IS CLAIMED IS:

1. An automatic gain control apparatus for a video signal comprising:

a RF amplifier for receiving signals of a frequency band from a predetermined channel, and amplifying a high frequency signal among those received signals and converting the high frequency signal into an intermediate frequency (IF) signal;

an IF amplifier for receiving the intermediate frequency signal, and amplifying the signal by a predetermined amplifying rate;

a demodulator for demodulating the IF signal from the IF amplifier, and outputting a reproduced video signal;

a RF automatic gain control apparatus and an IF automatic gain control apparatus for receiving the video signal reproduced by the demodulator, and controlling a gain of the RF amplifier and a gain of the IF amplifier according to the reproduced video signal, respectively; and

a RF automatic gain control compensating unit for detecting a level of an IF input signal provided to the IF amplifier, checking whether the detected level of the IF input signal meets a reference level, controlling for raising a voltage of the RF automatic gain control apparatus if the detected level of the IF input signal is lower than the reference level, and controlling for lowering a voltage of the RF automatic gain control apparatus if the detected level of the IF input signal is higher than the reference level.

2. The apparatus according to claim 1, wherein if the reproduced video signal is smaller than an output reference range and when the level of the IF input signal is lower than the reference level, the RF automatic gain control apparatus raises an AGC constant associated with the RF automatic gain control apparatus, thereby making an output voltage higher compared with an input voltage of the RF automatic gain control apparatus.

3. The apparatus according to claim 1, wherein in the case that the reproduced video signal is smaller than an output reference range and that the level of the IF input signal meets the reference level, the IF automatic gain control apparatus is adjusted.

4. The apparatus according to claim 1, wherein if the reproduced video signal is smaller than an output reference range and the level of the IF input signal is higher than the reference level, the RF automatic gain control apparatus lowers an AGC constant associated with the RF automatic gain control apparatus, thereby making an output voltage lower compared with an input voltage of the RF automatic gain control apparatus.

5. The apparatus according to claim 1, wherein if the reproduced video signal exceeds an output reference range, the IF automatic gain control apparatus adjusts an AGC constant associated with the IF automatic gain control apparatus.

6. The apparatus according to claim 1, wherein if the reproduced video signal exceeds an output reference range and the level of the IF input signal is lower than the reference level, the RF automatic gain control apparatus raises an AGC constant associated with the RF automatic gain control apparatus, thereby making an output voltage higher compared with an input voltage of the RF automatic gain control apparatus, and adjusting an AGC constant of the IF automatic gain control apparatus.

7. The apparatus according to claim 1, wherein if the reproduced video signal exceeds an output reference range and the level of the IF input signal is higher than the reference level, the RF automatic gain control apparatus lowers an AGC constant associated with the RF automatic gain control apparatus, thereby forming an output voltage lower compared with an input voltage of the RF automatic gain control apparatus, and an AGC constant of the IF automatic gain control apparatus is adjusted.

8. An adjusting method of an automatic gain control apparatus for a video signal for being inputted with a signal, amplifying the input signal through a RF amplifier and outputting as an IF input signal to an IF amplifier, outputting a video signal which is reproduced based on the IF input signal, and controlling a gain of the RF amplifier and of the IF amplifier based on the reproduced video signal through a RF automatic gain control apparatus and an

IF automatic gain control apparatus, respectively, the adjusting method comprising the steps of:

(a) determining whether or not the reproduced video signal meets a predetermined output reference range;

(b) if it is determined that the reproduced video signal does not meet the predetermined output reference range in the step (a), determining whether or not the reproduced video signal exceeds the predetermined output reference range;

(c) if it is determined that the reproduced video signal does not exceeds the predetermined output reference range in the step (b), determining whether or not an IF input signal level of the IF input signal is identical to a reference level that corresponds to the output reference range;

(d) if it is determined that the IF input signal level is not identical to the reference level in the step (c), determining if the IF input signal level is greater or smaller than the reference level; and

(e) if it is determined that the IF input signal level is greater than the reference level in the step (d), lowering an AGC constant of the RF automatic gain control apparatus, thereby making an output voltage lower compared with an input voltage of the RF automatic gain control apparatus.

9. The adjusting method of claim 8, wherein, if it is determined in the step (c) that the IF input signal level is identical to the reference level, the IF automatic gain control apparatus is adjusted.

10. The adjusting method of claim 8, wherein, it is determined in the step (d) that the reference level is greater, the AGC constant of the RF automatic gain control apparatus is raised so that the output voltage becomes higher compared with the input voltage of the RF automatic gain control apparatus.

11. The adjusting method of claim 8, if it is determined in the step (b) that the reproduced video signal exceeds the output reference range, further comprising the steps of:

(f) determining whether or not the IF input signal level is identical to the reference level;

(g) if it is determined in the step (f) that the IF input signal level is not identical to the reference level, determining if the IF input signal level is greater or smaller than the reference level; and

(h) if it is determined in the step (g) that the IF input signal level is greater, lowering the AGC constant of the RF automatic gain control apparatus, thereby making the output voltage lower compared with the input voltage of the RF automatic gain control apparatus, and adjusting an AGC constant of the IF automatic gain control apparatus.

12. The adjusting method of claim 11, wherein, if it is determined in the step (f) that the IF input signal level is identical to the reference level, the IF automatic gain control apparatus is adjusted.

13. The adjusting method of claim 11, wherein, if it is determined in the step (g) that the reference level is greater, raising the AGC constant of the RF automatic gain control apparatus, thereby making the output voltage higher compared with the input voltage of the RF automatic gain control apparatus, and adjusting the AGC constant of the IF automatic gain control apparatus.